



Drumbeat: March 24, 2009

Posted by [Gail the Actuary](#) on March 24, 2009 - 9:24am

Topic: [Miscellaneous](#)

[Cold fusion experimentally confirmed](#)

U.S. Navy researchers claimed to have experimentally confirmed cold fusion in a presentation at the American Chemical Society's annual meeting.

"We have compelling evidence that fusion reactions are occurring" at room temperature, said Pamela Mosier-Boss, a scientist with the Space and Naval Warfare Systems Center (San Diego). The results are "the first scientific report of highly energetic neutrons from low-energy nuclear reactions," she added.

[Green gift: Energy upstarts chase stimulus cash](#)

The question is whether this support is too little, too late. For every Horizon Wind or eMeter that saw an immediate uptick in business, there are small companies for which recovery still looks like a mirage at the far end of a desert. . .

In theory, the stimulus bill's \$8 billion in loan guarantees should help. But such guarantees have been available since 2005, when Congress passed the Energy Policy Act. Not one has actually made its way to a company. The review process is slow, and the up-front fees are steep.

"It's been a black hole," complains George Sterzinger, executive director of the Renewable Energy Policy Project. It remains to be seen whether the Obama administration can fix this broken process.

In the short term the stimulus bill's tax credits are likely to be more useful than loan guarantees. First, double-dipping is now encouraged: Green companies can gorge on both state and federal tax credits instead of being forced to choose. Second, even green startups with no profits to write taxes off against will receive an IRS check for the maximum refund.

Clean energy businesses get a nice gift in the form of a 30% tax credit on investment to encourage expansion in the U.S. (rather than overseas, where 90% of all clean energy manufacturing now takes place).

[Space storm alert: 90 seconds from catastrophe](#)

According to the NAS report, a severe space weather event in the US could induce ground currents that would knock out 300 key transformers within about 90 seconds, cutting off the power for more than 130 million people (see map). From that moment, the clock is ticking for America.

First to go - immediately for some people - is drinkable water. Anyone living in a high-rise apartment, where water has to be pumped to reach them, would be cut off straight away. For the rest, drinking water will still come through the taps for maybe half a day. With no electricity to pump water from reservoirs, there is no more after that.

There is simply no electrically powered transport: no trains, underground or overground. Our just-in-time culture for delivery networks may represent the pinnacle of efficiency, but it means that supermarket shelves would empty very quickly - delivery trucks could only keep running until their tanks ran out of fuel, and there is no electricity to pump any more from the underground tanks at filling stations.

Back-up generators would run at pivotal sites - but only until their fuel ran out. For hospitals, that would mean about 72 hours of running a bare-bones, essential care only, service. After that, no more modern healthcare.

The truly shocking finding is that this whole situation would not improve for months, maybe years: melted transformer hubs cannot be repaired, only replaced. "From the surveys I've done, you might have a few spare transformers around, but installing a new one takes a well-trained crew a week or more," says Kappenman. "A major electrical utility might have one suitably trained crew, maybe two."

[Province supplying Beijing water drying up: state](#)

A province in north China that supplies Beijing with much needed water is itself facing serious shortages of the resource, state media reported ahead of World Water Day on Sunday...

Probe International, a leading development policy group, has warned that the city of Beijing faces economic collapse and will need to resettle part of its population in coming decades, as it could run out of water in five to 10 years.

[Perfect storm of environmental and economic collapse closer than you think](#)

A "perfect storm" of food shortages, scarce water and high-cost energy will hit the global economy before 2030, said the government's chief scientific adviser, John Beddington, last week. Factor in accelerating climate change and this lethal cocktail leads to public unrest, cross-border conflict and mass migration – in other words, an economic and political collapse that will make today's economic recession seem very tame indeed. But though I totally agree with John Beddington's analysis, I think he's got the timing wrong.

This "perfect storm" will hit much closer to 2020 than 2030. . .

And then there's the debt issue. Governments have systematically stoked up levels of personal and national debt (including insane asset bubbles in housing, land and property) explicitly to force-feed high levels of economic growth. We will all be paying off those financial debts for decades to come.

On the environment front, as our financial debts have built up, so have our debts to nature – in terms of the unsustainable depletion of natural resources, measured by the loss of topsoil, forests, fresh water and biodiversity. Everybody knows that liquidating capital assets to fuel consumption is crazy but nobody seems to know how to stop it.

[Woodchips With Everything](#) (George Monbiot)

Biomass is suddenly the universal answer to our climate and energy problems. Its advocates claim that it will become the primary source of the world's heating fuel, electricity, road transport fuel (cellulosic ethanol) and aviation fuel (bio-kerosene). Few people stop to wonder how the planet can accommodate these demands and still produce food and preserve wild places. Now an even crazier use of woodchips is being promoted everywhere (including in the Guardian(1)). The great green miracle works like this: we turn the planet's surface into charcoal. . .

The energy lecturer Peter Read proposes new biomass plantations of trees and sugar covering 1.4 billion ha(9).

The arable area of the United Kingdom is 5.7m hectares, or one 245th of Read's figure. China has 104m ha of cropland. The US has 174m. The global total is 1.36 billion(10). Were we to follow Read's plan, we would either have to replace all the world's crops with biomass plantations, causing instant global famine, or we would have to double the cropped area of the planet, trashing most of its remaining natural habitats. Read was one of the promoters of first-generation liquid biofuels(11,12), which played a major role in the rise in the price of food last year, throwing millions into malnutrition. Have these people learnt nothing?

[After 20 years: New life for cold fusion?](#)

Is the science community warming to cold fusion? It's been 20 years to the day since Martin Fleischmann and Stanley Pons, electrochemists at the University of Utah in Salt Lake City, announced the discovery of what they believed to be "cold fusion" (now often referred to as low-energy nuclear reactions, or LENR), a room-temperature nuclear reaction that reportedly generated an unexplained amount of heat. The pronouncement spawned a flurry of excitement about a new renewable energy source, but enthusiasm quickly waned after the result wasn't satisfactorily replicated. Today at the American Chemical Society's national meeting in the very same city, researchers are recapping recent developments in the field – including images of what some believe are telltale signs of reaction-born subatomic particles, as well as documentation of heat, helium, gamma rays and other products from possible low-energy nuclear reactions. . .

The hope of LENR is to replicate the powerful energy generation that occurs in stars such as our sun, but to do so at a much cooler temperature. If successful, it could provide a nearly infinite supply of clean energy here on Earth. But many remain skeptical, including the U.S. Department of Energy (DOE).

[China fuel stocks grew in Feb despite stronger sales](#)

China's refined fuel stocks rose 11 percent in February despite a sharp post-holiday rebound in domestic sales, media reported on Tuesday, suggesting that demand in the world's No. 2 consumer may be weaker than thought. . .

"The figures show that demand is still not strong enough to soak up the supplies. Demand remains much weaker than the same time last year," said Liu Bo, oil analyst with Guojin Securities.

Inventories of refined oil products rose 11.4 percent versus end-January to 14.85 million tonnes at the end of February, the Beijing News reported, citing data from the China Petroleum and Chemical Industry Association. It said stock levels were 36.3 percent higher than a year earlier.

[Russia can raise oil output if price above \\$50](#)

Russia can sustain and even raise oil output if prices stay above \$50 per barrel, Russia's Energy Minister said, adding he believed it would make no sense to merge oil majors Rosneft (ROSN.MM) and Surgut (SNGS.MM).

Sergei Shmatko also said Russia and China were close to finalizing work on a \$25 billion loan to Rosneft and oil pipeline firm Transneft and added Gazprom was ready to raise supplies to Poland to compensate for lower supplies from gas trader RosUkrEnergo.

"Today when the price of oil is approaching \$50 per barrel, the eyes of oil firms are beginning to light up again. If it stays at above these levels, I'm sure they will ramp up production," Shmatko told reporters.

[Oil Defies Bearish Sentiment: Will Natural Gas Follow?](#)

Despite endless bearish news on the global economy, that call has come good, initially for non-WTI grades like Brent given the specific Cushing storage issue, but in recent weeks for Nymex crude as well. As can be seen in the chart below, thanks to OPEC discipline (helped by a steep contango structure which makes keeping oil in the ground rational) crude is now breaking out of its recent trading range. As with many commodities right now, the market is struggling to reconcile the reality of short term demand destruction (albeit US gasoline demand seems to be rebounding) with the prospect of medium-term supply destruction as key development projects are postponed or canceled. . .

While it's hard to see oil prices doubling in the next year absent a huge supply disruption, it's quite feasible for US gas from these levels.

['Nano will add to global pollution'](#)

"So we're not going to be replacing gas-guzzling 4x4s with fuel-efficient cars, we already do that in the West. What's going to happen is a lot more cars are going to get on the road and that's going to happen in India and China and it will be a profound change."

The Australian also believed Nano would impact fuel prices.

"Oil is running out and in fact we're at about peak oil production now. China and India are running to the party and the keg is half empty," he said.

[The Car that Runs on Fresh Air](#) (video)

Engineers in the south of France are working on a car that they hope will radically change the way motorists fuel their vehicles.

It is powered by compressed air, emits zero pollution – from the exhaust-pipe at least – costs one euro per fill-up and boasts a top speed of 70 kilometres per hour.

[LNG looks good as oil prices continue to fall](#)

FALLING oil prices are raising interest in Australia's liquefied natural gas sector as oil majors look to boost vital reserves they can no longer secure in areas like Canada's oil sands.

"Australia is key on the target list for many companies because they are opportunity constrained and that is evidenced by the numbers that are active here," PricewaterhouseCoopers global LNG leader Michael Hurley said.

"If you look at other investment opportunities companies have had in the past few years, there's been a big play for oil sands in Canada," he said.

[As Work Force Ages, Oil Majors Use Tech to Retain Knowledge](#)

Major oil companies are looking for the solution to the work force crunch in their employees' electronic trail.

ConocoPhillips, Chevron Corp. and BP PLC are encouraging employees to use handheld computers, interactive Web pages, blogs, social networks and other media to store

information on how they make crucial decisions or resolve problems at the office and in the field.

This new generation of options allows companies to partially solve one of their biggest challenges: the retirement of half of their workforce over the next 10 years. The shift allows employees to more efficiently communicate on a large scale, as well as archive knowledge and reduce training costs, the companies said.

[Major Oil Cos Eye Chance with Nationals](#)

Chief executives of Exxon Mobil Corp., Chevron Corp. and BP PLC have recently played down the idea of corporate mergers and said they might do better by partnering with state-owned companies struggling to meet capital needs.

While such efforts have been rebuffed in the past due to a surge of nationalism fueled by high commodity prices, the drastic drop in oil prices may force some national oil companies to reconsider.

"Given the need these countries have for investment, the need they have for technology, the need they have to keep their economy going, this is the time they need companies like ours more than ever," Chevron Chief Executive David O'Reilly said at the company's recent analyst meeting.

[Nigeria unions call off strike](#)

Nigerian oil unions have called off a proposed strike after the government promised to do more to improve security in the restive Niger Delta.

[Nigerian output dips to 1.6m bpd](#)

Nigeria's oil production is averaging around 1.6 million barrels per day so far this year, significantly lower than government expectations, the Opec member's finance minister said today.

Mansur Muhtar said the government may need to tighten federal spending this year to reflect the drop in oil output. This year's budget, signed into law earlier this month, assumes oil production at 2.3 million bpd.

[Moscow fury at Kiev gas move](#)

Russia broke off talks with Ukraine today after Kiev angered the Kremlin by asking European Union investors to help modernise its gas pipeline network which supplies

about 20% of Europe's gas.

The spat over investments in Ukraine's gas pipeline network has revived fears of a repeat of the January gas dispute between Russia and Ukraine when major EU customers were left without gas for nearly two weeks in the dead of winter.

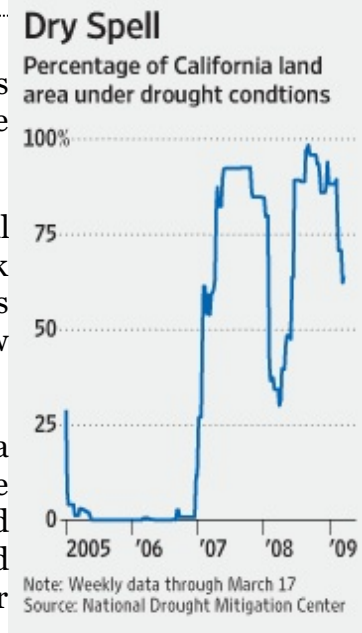
European officials on Monday welcomed a Ukrainian plan to modernise its gas network but Russia is dismayed that it was not included in the discussions.

[Drought Turns Water Into a Cash Crop](#)

As Don Bransford prepares for his spring planting season, he is debating which is worth more: the rice he grows on his 700-acre farm north of Sacramento, or the water he uses to cultivate it.

After three years of drought in California, water is now a potential cash crop. Last fall, the state activated its Drought Water Bank program for the first time since 1994. Under the program, farmers can choose to sell some of the water they would usually use to grow their crops to parched cities, counties and agriculture districts. . .

In addition, the water bank is still wending its way through a complicated approval process from state and federal agencies. The bank can't formally open for business until those kinks get worked out. If the approvals don't happen soon, farmers like Mr. Bransford will have no choice but to plant their crops instead of selling their water.



[EPA Raises Heat on Emissions Debate](#)

The Environmental Protection Agency has sent the White House a proposed finding that carbon dioxide is a danger to public health, a step that could trigger a clampdown on emissions of greenhouse gases across a wide swath of the economy.

If approved by the White House Office of Management and Budget, the endangerment finding could clear the way for the EPA to use the Clean Air Act to control emissions of carbon dioxide and other greenhouse gases believed to contribute to climate change. In effect, the government would treat carbon dioxide as a pollutant. The EPA submitted the proposed rule to the White House on Friday, according to federal records published Monday.

Such a finding would raise pressure on Congress to enact a system that caps greenhouse gases -- which trap the sun's heat in the earth's atmosphere -- and creates a market for businesses to buy and sell the right to emit them, as President Barack Obama has proposed.

[Quick Sand: Suncor, Petro-Canada Merger Unlikely to Cure What Ails Oil Sands](#)

But at first glance, it doesn't look like the marriage between two of Canada's biggest oil players will address the fundamental problem in accelerating oil-sands development: It's just too expensive at current crude prices. It also doesn't address the uncertainty around how climate-change legislation might impact the economics of this carbon-heavy fuel. . .

The combined company, which would have pro-forma oil sands production of about 288,000 barrels per day, might not find it much easier to rejuvenate stalled investments in key areas. Suncor's plans to almost double oil sands production by adding a refinery-sized facility called an upgrader, for instance, still look stillborn despite the merger: The Voyageur Upgrader carries a \$4.4 billion Candian dollar pricetag.

[Brazil's oil workers go on strike](#)

Brazil's state oil company Petrobras' workers started a strike on Monday demanding better working conditions and payment. . .

However, according to Petrobras, all units' operations are carrying on normally and not affected by strike. In a statement released on Monday afternoon, the company also stated that operations are being carried out by contingency teams, and the negotiation will be opened soon.

[UPDATE 1-EOG CEO says no deals likely in 2009](#)

"We've currently got a monstrous inventory of assets," Papa told the 2009 Howard Weil Energy Conference.

Over the next five years, the company's assets in the Bakken Shale in North Dakota, the Barnett Shale in Texas and the Haynesville in Louisiana will enable EOG to return to production growth in the double digits when market conditions improve, Papa said.

EOG and other energy companies have had to cope with an enormous drop in oil and natural gas prices.

In February, EOG said it expects to grow production in 2009 by about 3 percent, compared with a 15 percent gain in 2008 as it slows drilling in some areas.

[Venezuela economy seen contracting unless oil rises](#)

Without a sustained rise in oil prices, Venezuela's economy will stall or contract this year, especially after the spending cuts socialist President Hugo Chavez announced at

the weekend.

Chavez's liberal use of soaring oil revenues, soft credits and lower sales tax has endeared him to poorer supporters and fed a consumer boom in recent years.

Despite the socialist president's usual instinct to spend, on Saturday Chavez cut spending and raised sales taxes rather than risking a costly fiscal stimulus with oil revenues at about half their 2008 level.

Analysts say the decision will likely further slow consumer demand and economic growth.

[ViaLogy Technology Delivers Large Oil Find](#)

ViaLogy announces today that its QuantumRD(TM: 65.23, 4.56, 7.52%) oil exploration technology and service has been credited with locating a major new oil deposit on the Galba Prospect in South Central Texas. The success marks the operational and commercial validation of the company's software-based seismic interpretation service for oil and gas reservoir discovery and characterization. The technology accurately predicted the size, location and porosity of three reservoirs.

The successful drilling effort and oil strike based on the ViaLogy analysis located reservoirs at increasing depths estimated to contain a total of over 2 million barrels of recoverable reserves.

[Colorado, feds to hash out oil, gas regulations](#)

State and federal officials plan to sort out questions about how Colorado's proposed new oil and gas regulations will apply to federal land. . .

Colorado Petroleum Association President Stan Dempsey said having two sets of regulations on federal land puts the industry in a difficult position.

"This is very serious for us. We're not going to be able to rectify which rules apply to us," Dempsey told a legislative committee last week.

Dempsey said he doesn't believe the state has the authority to impose state rules on federal land.



This work is licensed under a [Creative Commons Attribution-Share Alike 3.0 United States License](#).